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EPAct Test Programs in ASD
16th Bi-Weekly Report
September 25, 2008

1. Light Duty Gas Exhaust Fuels

Contractor: SwRI, EP-C-07-028, WA 0-1
WAM: Connie Hart
Alt. WAM: Rafal Sobotowski
Other team members: Mike Christianson, Tony Fernandez, Carl Fulper, Aron Butler
Budget: \$4.3M, plus \$3M in collaboration with NREL Now \$5M, plus NREL

Objective: Phases 1 and 2 are in support RFS 2 NPRM and Phase 3 is to establish the effects of RVP, T50, T90, aromatic and EtOH content on exhaust emissions from Tier 2 vehicles

Time Line

- Testing began by second week of April
- Phase 1 and half of Phase 2 finished by the end of June: Fuels 17 and 18 of Phase 1 were complete by end of June. Fuel 19 by end of July due to fuel delivery delays. Phase 2 to start by mid-September.
- Phase 3 will be finished May 2009: Phase 3 to be complete by January 2010 between testing/fuel delays to date and additional CRC fuels added into our random matrix.

Program Status:

- Fuel status for Phase 3:
 - Rafal has completed 6 new fuel recipes.
 - Issues with the components are being worked out.
 - In-house ASD programming support is moving forward. More complicated than anticipated, will just take a little more time.
- Data/Analysis:
 - Briefing for Margo is planned for sometime in September, to review data from fuels 17, 18 and 19.
- Phase 2 cold room testing is underway to prove out maintenance of the temperature in the "box".
- EFM issues are very close to resolution.
- Discussions are continuing on extra testing between Phase 2 and Phase 3 before enough fuels have been delivered to initiate the testing.
 - CRC has offered vehicles from E-74b and E-77-2 programs. Working out the details to have shipped from Phoenix to San Antonio.

2. Oil Study

Contractor: NVFEL
Project lead: Mike Christianson, Rafal Sobotowski
Budget:

Objectives: Results to impact Phase 3 of EPAct study at SwRI (July)

Objective 1: Define duration of engine oil conditioning needed to stabilize the effect of oil volatility on PM emissions

Objective 2: Define the impact of lubricant interaction with fuel ethanol on PM emissions

Time Line

- Estimated duration of pilot: 15 weeks (May 11)

Program Status:

- Additional data analysis to be conducted by George Hoffman as second priority (after SwRI data)
- Chet briefing on final analysis results as next step

3. PM Speciation

Contractor: NVFEL

Project lead: Mike Christianson, Marion Hoyer

Other team members: Rafal Sobotowski, Joe McDonald

Budget: \$345K (\$55K on inventory and data issues from other EPAAct programs)

Objective: To determine fuel effects on PM mass, size and composition, and obtain speciated semi-volatile VOC, metals and ions, and gaseous VOC (MSATs), alcohols and carbonyls.

Time Line: Late 2008

Program Status:

- ORD site visit was this week. Joe McDonald, John Menter, and Tom Schrodtt are assessing their site for 1065 compliancy.
- Sole source AVL services contract to be awarded this week to begin reconfiguring system and testing it here at NFVEL

4. Nonroad Exhaust Program

Contractor: Carnot Intertek

WAM: Cheryl Caffrey

Alt. WAM:

Budget: \$830K

Project Overview:

Objective: Testing 6 paired engines including 2 Class 1, 2 Class 2, 2 Class 4, (one Class 2 engine has catalyst) on three fuels; national average non-oxy gasoline (Fuel A), an octane matched E10 (Fuel B), and a certification fuel (E0).

Timeline

- The original program was to be completed last year

- Should begin by April 1st and finish in October of this year: delays in schedule due to fuel delivery status.

Program Status

- Testing progresses with break-in on B&S Class II and Echo handheld engines.
- Currently have breakin and aged emission data on 7 of 12 engines.
- Received DOE draft report for review. Expect comments to be passed along to Carl Simon by Wednesday.

4.a. Nonroad Exhaust tie-in with CARB

Contractor: SwRI
 WAM: Cheryl Caffrey
 Alt. WAM:
 Other team members: Tony Fernandez
 Budget: \$500K

Program Status

- Waiting for Work Plan submittal.

5. Evap Testing

Contractor: SwRI, EP-C-07-028, WA 0-4
 WAM: Connie Hart
 Alt. WAM: Dave Brzezinski
 Other team members: Tony Fernandez
 Budget: \$600K

Objective: Additional, newer technology, high sales volume vehicles to the CRC E-77-2 permeation test program.

Time Line: Testing from June 2008 thru June 2009: Testing will not start until end of summer.

Program Status:

- Need to send cost justification for CO approval. Overall project will be \$700K, \$100K is requested in 2009 budget to complete the program. Extra costs incurred from SwRI fees for overseeing at ATL and speciation was more than anticipated.
- Testing shall begin with delivery of QAPP in next few weeks.

6. Determine Percent of High Evaporative Vehicles in Fleet

Contractor: ERG, EP-C-06-080, WA 1-2
 WAM: Connie Hart
 Alt. WAM: Dave Brzezinski
 Other team members: Carl Fulper, Tony Fernandez, Jim Warila
 Budget: \$1M

Objective: Find the percentage of high emitting evaporative emission vehicles in the average fleet of on-road motor vehicle passenger cars and light trucks.

Time Line

- ICR clock started with Federal Register notice 2/14/08
- SOW package went to Cincinnati 2/22/08
- Approval of Work Plan by March 24: Work Plan was approved June 19 (after CRADA signed).
- Contractor to supply supporting documents for ICR submission March 31: delivered May 8th.
- Another 30 day comment period for ICR, roughly month of May.
- Goal is to have ICR in place by mid-June for recruitment and pilot field work to begin. Partial ICR approval has been given for the Pilot phase.
- Finalize test procedure for larger program by August 22 so recruitment can begin for field work in Sept and October. Larger program to be defined by end of September for small version of larger program to occur in October.
- Compile data and draft report by early December of 2008

Program Status:

- Plan for the larger program shall be complete by end of September and submitted to OMB for approval.
 - Meeting with David Rostker of OMB is set up to review our plan before submitting documents for efficient approval process.
 - Smaller version of large program to take place in San Antonio, Texas in October. Balance in Spring of 2009.
 - Use RSD for pre-screening as informed from pilot.